

WHAT IS CLAIMED IS:

1. A method for inducing cytotoxicity in a cell comprising contacting said cell with a CDDO-compound and a chemotherapeutic agent, wherein the combination of the CDDO-compound with the chemotherapeutic agent is effective in inducing cytotoxicity in said cell.
2. The method of claim 1, wherein said CDDO-compound is CDDO.
3. The method of claim 1, wherein said CDDO-compound is methyl-CDDO.
4. The method of claim 1, wherein the CDDO-compound is contacted with said cell prior to contacting said cell with said chemotherapeutic agent.
5. The method of claim 1, wherein said chemotherapeutic agent is contacted with said cell prior to contacting said cell with CDDO.
6. The method of claim 1, wherein said cell is a cancer cell.
7. The method of claim 6, wherein said cancer cell is a leukemic cell.
8. The method of claim 7, wherein said leukemic cell is a blood cancer cell, a myeloid leukemia cell, a monocytic leukemia cell, a myelocytic leukemia cell, a promyelocytic leukemia cell, a myeloblastic leukemia cell, a lymphocytic leukemia cell, an acute myelogenous leukemic cell, a chronic myelogenous leukemic cell, a lymphoblastic leukemia cell, a hairy cell leukemia cell.
9. The method of claim 6, wherein said cancer cell is a solid tumor cell.
10. The method of claim 9, wherein said solid tumor cell is a bladder cancer cell, a breast cancer cell, a lung cancer cell, a colon cancer cell, a prostate cancer cell, a liver

cancer cell, a pancreatic cancer cell, a stomach cancer cell, a testicular cancer cell, a brain cancer cell, an ovarian cancer cell, a lymphatic cancer cell, a skin cancer cell, a brain cancer cell, a bone cancer cell, a soft tissue cancer cell.

5 11. The method of claim 1, wherein said cell is located in a human subject.

12. The method of claim 11, wherein said CDDO-compound is administered locally.

10 13. The method of claim 12, wherein said CDDO-compound is administered by direct intratumoral injection.

14. The method of claim 12, wherein said CDDO-compound is administered by injection into tumor vasculature.

15 15. The method of claim 11, wherein said CDDO-compound is administered systemically.

16. The method of claim 15, wherein the CDDO-compound is administered intravenously.

20 17. The method of claim 15, wherein the CDDO-compound is administered intra-arterially.

25 18. The method of claim 15, wherein the CDDO-compound is administered intra-peritoneally.

19. The method of claim 15, wherein the CDDO-compound is administered orally.

30 20. The method of claim 15, wherein the CDDO-compound is administered during *ex vivo* purging.

21. The method of claim 1, wherein said chemotherapeutic agent is doxorubicin, decitabine, daunorubicin, dactinomycin, mitoxantrone, cisplatin, procarbazine, mitomycin, carboplatin, bleomycin, etoposide, teniposide, mechloretamine, cyclophosphamide, ifosfamide, melphalan, chlorambucil, ifosfamide, melphalan, hexamethylmelamine, thiopeta, busulfan, carmustine, lomustine, semustine, streptozocin, dacarbazine, adriamycin, 5-fluorouracil (5FU), camptothecin, actinomycin-D, hydrogen peroxide, nitrosurea, plicomycin, tamoxifen, taxol, transplatinum, vincristin, vinblastin, TRAIL, dolastatin-10, bryostatin, annamycin, mylotarg, sodium phenylacetate, sodium butyrate, methotrexate, a cortocosteroid or tacrolimus.

22. The method of claim 1, wherein said chemotherapeutic agent is a retinoid.

23. The method of claim 22, wherein said retinoid is selected from the group comprising all-*trans*-retinoic acid, 9-*cis*-retinoic acid, LG100268, LGD1069, fenretinide, CD437, a RAR-specific retinoic acid and a RXR-specific retinoic acid.

24. The method of claim 23, wherein said RXR-specific retinoic acid is LG100268.

25. The method of claim 1, wherein said cell is contacted with the CDDO-compound a second time.

26. The method of claim 1, wherein said cell is contacted with said chemotherapeutic agent a second time.

27. The method of claim 1, wherein the CDDO-compound and said chemotherapeutic agent are contacted with said cell at the same time.

28. The method of claim 11, further comprising tumor resection.

29. The method of claim 28, wherein said tumor resection occurs prior to said contacting.

30. The method of claim 28, wherein said contacting comprises treating a resected tumor bed with the CDDO-compound and said chemotherapeutic agent.

31. The method of claim 28, wherein said tumor resection occurs after said contacting.

32. The method of claim 28, wherein said contacting occurs both before and after said tumor resection.

33. A method of killing a tumor cell comprising contacting said tumor cell with a CDDO-compound and a chemotherapeutic agent, wherein the combination of said CDDO-compound with said chemotherapeutic agent, induces killing of said tumor cell.

34. The method of claim 33, wherein said CDDO-compound is CDDO.

35. The method of claim 33, wherein said CDDO-compound is methyl-CDDO.

36. The method of claim 33, wherein said chemotherapeutic agent is a retinoid.

37. A method of inducing apoptosis in a tumor cell comprising contacting said tumor cell with a CDDO-compound and a chemotherapeutic agent, wherein the combination of said CDDO-compound with said chemotherapeutic agent, induces apoptosis of said tumor cell.

38. The method of claim 37, wherein said CDDO-compound is CDDO.

39. The method of claim 37, wherein said CDDO-compound is methyl-CDDO.

40. The method of claim 37, wherein said chemotherapeutic agent is a retinoid.

41. A method of inducing differentiation in a tumor cell comprising contacting said tumor cell with a CDDO-compound and a chemotherapeutic agent, wherein the combination of said CDDO-compound with said chemotherapeutic agent, induces the differentiation of said tumor cell.

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42. The method of claim 41, wherein said CDDO-compound is CDDO.

43. The method of claim 41, wherein said CDDO-compound is methyl-CDDO.

10 44. The method of claim 41, wherein said chemotherapeutic agent is a retinoid.

45. A method of treating cancer in a human patient comprising administering a CDDO-compound and a chemotherapeutic agent to said human patient, wherein the combination of said CDDO-compound with said chemotherapeutic agent, is effective to treat said cancer.

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46. The method of claim 45, wherein said CDDO-compound is CDDO.

47. The method of claim 45, wherein said CDDO-compound is methyl-CDDO.

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48. The method of claim 45, wherein said chemotherapeutic agent is a retinoid.

49. A method of potentiating the effect of a chemotherapeutic agent on a tumor cell comprising contacting said tumor cell with a CDDO-compound and the chemotherapeutic agent.

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50. The method of claim 49, wherein said CDDO-compound is CDDO.

51. The method of claim 49, wherein said CDDO-compound is methyl-CDDO.

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52. The method of claim 49, wherein said chemotherapeutic agent is a retinoid.

53. A method of inhibiting growth of a tumor cell comprising contacting said tumor cell with a CDDO-compound and a chemotherapeutic agent.

5 54. The method of claim 53, wherein said CDDO-compound is CDDO.

55. The method of claim 53, wherein said CDDO-compound is methyl-CDDO.

10 56. The method of claim 53, wherein said chemotherapeutic agent is a retinoid.

57. A method of inducing apoptosis in a lymphoid cell that expresses Bcl-2 comprising contacting said lymphoid cell with a CDDO-compound and an immunosuppressive agent.

15 58. The method of claim 57, wherein the Bcl-2 is endogenous.

59. The method of claim 57, wherein the Bcl-2 is exogenous.

20 60. The method of claim 59, wherein the Bcl-2 is expressed by a expression vector that comprises a nucleic acid that encodes Bcl-2 under the control of a promoter active in the lymphoid cell.

61. The method of claim 57, wherein the lymphoid cell is a T-cell.

25 62. The method of claim 57, wherein the lymphoid cell is a cancer cell.

63. The method of claim 57, wherein the lymphoid cell is located in a human.

64. The method of claim 57, where the immunosuppressive agent is a corticosteroid.

30 65. The method of claim 57, where the immunosuppressive agent is a tacrolimus.

66. The method of claim 57, wherein the lymphoid cell is further contacted with a chemotherapeutic agent.

5 67. A method of treating or preventing graft versus host disease in a subject comprising administering to the subject a CDDO-compound in combination with an immunosuppressive agent.

10 68. The method of claim 67, wherein the subject is further treated with a chemotherapeutic agent.

69. The method of claim 67, wherein said CDDO-compound is CDDO.

15 70. The method of claim 67, wherein said CDDO-compound is methyl-CDDO.

71. The method of claim 67, where the immunosuppressive agent is a corticosteroid.

72. The method of claim 67, where the immunosuppressive agent is a tacrolimus.

20 73. The method of claim 67, where the subject is a human.

74. The method of claim 67, where the subject has cancer.

25 75. The method of claim 67, where the subject has received autologus bone marrow transplantation.

76. The method of claim 67, wherein the CDDO-compound is administered during *ex vivo* purging.

30 77. The method of claim 67, wherein the CDDO-compound is administered locally, by direct intratumoral injection or by injection into tumor vasculature.

78. The method of claim 67, wherein said CDDO-compound is administered systemically.

79. The method of claim 78, wherein the CDDO-compound is administered
5 intravenously, intra-arterially, intra-peritoneally, or orally.

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